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A NEW SUBSPECIES OF *GLOSSOPHAGA MEXICANA*
(CHIROPTERA: PHYLLOSTOMIDAE)
FROM SOUTHERN MEXICO

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Systematics of bats of the genus *Glossophaga* in North America have been under study by us for the past decade or so. Recently (Webster and Jones, 1980), we described *Glossophaga mexicana* from southern México, and in so doing recognized four sibling species on the mainland of North America. Cranial, mandibular, and dental characters that distinguish *G. mexicana* from the partly sympatric *G. commissarisi*, *G. leachii*, and *G. soricina*, as well as from a fifth species, *G. longirostris*, which occurs in northern South America and on some Caribbean islands, were detailed. However, specimens of *G. mexicana* were available to us only from a restricted area—the xeric pine-oak forests and lowlands of the Isthmus of Tehuantepec—and no assessment of geographic variation within *G. mexicana* was possible at that time.

Prior to the description of *G. mexicana*, one of us (Webster) examined a sizable collection of Oaxacan *Glossophaga* deposited in the American Museum of Natural History. Specimens from two localities in western Oaxaca—0.5 mi. SE San Gabriel Mixtepec, and “Puerto Escondido to San Pedro Mixtepec”—clearly were not assignable to *commissarisi*, *leachii*, *longirostris*, or *soricina*. They resembled specimens of *mexicana* from eastern Oaxaca and western Chiapas, but were noticeably smaller in most external and cranial dimensions. These specimens, therefore, were

not included in the original description of *mexicana*. Since that time, we have examined bats from Guerrero, Michoacán, Morelos, and Puebla that are identical with those mentioned above from western Oaxaca and are referable to an unrecognized taxon, for which we propose the name:

Glossophaga mexicana brevirostris, new subspecies

Holotype.—Adult male, skin and skull, no. 4611, Texas Cooperative Wildlife Collections, Texas A&M University; from 6 mi. W Yautepec, 4500 ft., Morelos, México; obtained on 5 August 1950 by J. R. Walther, original no. 171. Right forearm damaged and outer upper incisor on right side missing; skin and skull of holotype otherwise in excellent condition.

Selected external and cranial measurements (in millimeters) of the holotype are: total length 67; length of tail, 6; length of hind foot, 10; length of ear from notch, 16; length of forearm (dry), 35.8; greatest length of skull, 21.7; condylobasal length, 20.1; mastoid breadth, 8.8; interorbital breadth, 4.1; length of maxillary toothrow, 7.6; length of mandibular toothrow (c-m3), 8.0; weight, 9.2 grams.

Distribution.—This subspecies is known in southern México from Michoacán, Morelos, Puebla, Guerrero, and western Oaxaca (Fig. 1); known altitudinal distribution from approximately 100 to 1500 meters.

Diagnosis.—*Glossophaga mexicana brevirostris* averages smaller than *G. m. mexicana* in both external and cranial measurements (Table 1). The rostrum is particularly short and narrow in *brevirostris* (long and wide in *mexicana*), and the zygomata of *brevirostris* are weak and much more fragile than are those of *mexicana*. The pelage of *brevirostris*, although bicolored and similar to that found in other species of *Glossophaga*, exhibits noticeably less contrast between the pale bases of hairs and the darker tips than in the nominate subspecies. Furthermore, in *brevirostris* the basisphenoid pits average deeper, the fourth upper premolar has a better developed posterolingual cingular shelf, and the upper incisors are frequently less noticeably procumbent than are those of *mexicana*.

Specimens from Puerto Angel, Oaxaca, exhibit intergradation between *breviorstris* and *mexicana*; however, they are included

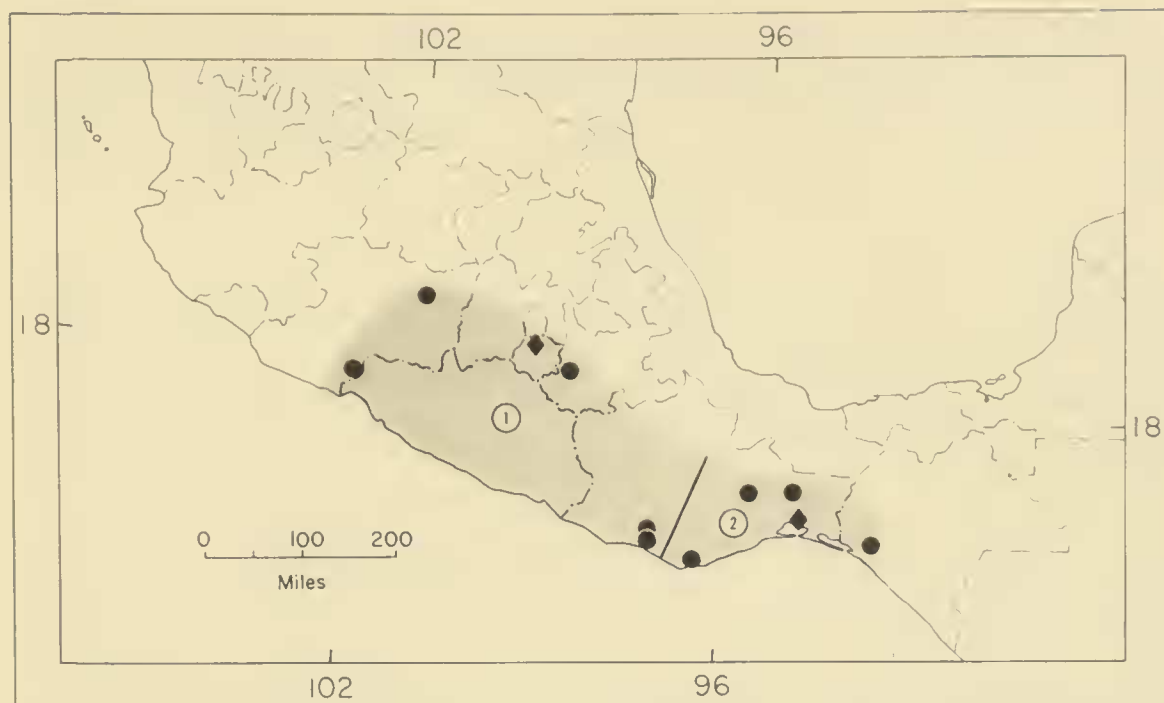


FIG. 1.—Geographic distribution of *Glossophaga mexicana brevirostris* (1) and *G. m. mexicana* (2) in southern México. Circles represent marginal localities and diamonds represent type localities.

TABLE 1.—Selected comparative measurements of *G. m. brevirostris* and *G. m. mexicana*. Mean followed by two standard deviations, extremes in parentheses, and sample size.

Measurement	Sex	<i>G. m. brevirostris</i>		<i>G. m. mexicana</i>	
Length of forearm	Male	33.92±2.44	(32.5-35.8)	5	34.41±1.84 (32.0-36.5) 35
	Female	34.03±2.18	(32.9-35.6)	6	34.76±1.20 (33.6-35.8) 22
Greatest length of skull	Male	21.35±1.06	(20.7-21.9)	6	21.94±0.69 (21.1-22.7) 33
	Female	21.37±0.62	(20.9-21.7)	6	22.06±0.64 (21.3-22.6) 22
Condylbasal length	Male	19.77±0.85	(19.2-20.2)	6	20.35±0.75 (19.6-21.5) 33
	Female	19.86±0.77	(19.4-20.4)	5	20.60±0.63 (19.9-21.2) 22
Zygomatic breadth	Male	9.28±0.41	(9.0-9.5)	1	9.57±0.45 (9.1-10.1) 29
	Female	9.15±0.77	(8.6-9.5)	4	9.47±0.37 (9.0-9.7) 16
Length of rostrum	Male	8.65±0.33	(8.4-8.8)	6	8.99±0.39 (8.7-9.4) 34
	Female	8.68±0.50	(8.4-9.0)	6	9.10±0.40 (8.7-9.4) 22
Mastoid breadth	Male	8.80±0.40	(8.5-9.1)	6	8.98±0.36 (8.6-9.5) 33
	Female	8.70±0.85	(8.1-9.1)	5	9.00±0.38 (8.6-9.4) 21
Interorbital breadth	Male	4.07±0.24	(4.0-4.3)	6	4.19±0.30 (3.8-4.5) 34
	Female	4.13±0.30	(4.0-4.3)	6	4.15±0.29 (3.8-4.3) 22
Length of maxillary toothrow	Male	7.40±0.31	(7.2-7.6)	6	7.69±0.26 (7.4-8.0) 34
	Female	7.55±0.37	(7.3-7.8)	6	7.82±0.31 (7.5-8.0) 22
Width across molars	Male	5.63±0.10	(5.6-5.7)	6	5.71±0.29 (5.4-6.0) 34
	Female	5.64±0.36	(5.4-5.8)	5	5.73±0.26 (5.5-6.0) 22

with the latter because they have relatively long rostra, whereas those from approximately 75 kilometers to the west (0.5 mi. SE San Gabriel Mixtepec, and Puerto Escondido to San Pedro Mixtepec) are much smaller overall and have less distinctly bicolored dorsal pelage, and represent *brevirostris*.

Remarks.—The type specimen of *G. m. brevirostris* was taken from a cave in Morelos. Another individual, reported as *G. soricina* by Winkelman (1962), was collected in a mist net set adjacent to a stream in Guerrero; other bats taken at this locality included *Balaniopteryx plicata*, *Macrotus waterhousii*, *Musonycteris harrisoni*, *Desmodus rotundus*, and *Lasiurus intermedius*.

Average external measurements (extremes in parentheses) of five males followed by those of three females of *G. m. brevirostris* are: total length, 62.4 (57-67), 66.7 (65-70); length of tail, 6.6 (5-9), 7.3 (6-10); length of hind foot, 10.6 (9-12), 10.0 (9-11); length of ear from notch, 13.2 (10-16), 10.6 (10-12).

The Latin epithet *brevirostris* refers to the shortness of the rostral region in individuals of this race relative to those of the nominate subspecies. It is of passing note that the specimen (UNAM 7383) designated as the "neotype" of *Glossophaga morenoi* by Villa-R. (1964) actually represents *G. m. brevirostris*, and is one of the two specimens listed below from Cueva del Idolo, 1 km. S Tequesquitengo, Morelos.

Specimens examined (21).—GUERRERO: 7 km. N Balsas, 700 m., 1 (UNAM); Coyuca, 1 (UNAM); 4.5 mi. SE Cuajinicuilapa, 300 ft., 1 (MSU); 2.5 km. W Puerto Marqués, 1 (UNAM); 2 km. SW Teopan de Galeana, 1 (UNAM); 14.5 mi. (by road) S Zumpango, ca. 2000 ft., 1 (UMMZ). MICHOACAN: 18 km. N El Infernillo, 1 (UNAM); 12 mi. S Tzitzio, 1050 m., 1 (UMMZ). MORELOS: Alpuyecá, 3500 ft., 1 (TCWC); Cueva del Idolo, 1 km. S Tequesquitengo, 950 m., 2 (UNAM); 6 mi. W Yautepec, 4500 ft., 2 (TCWC). OAXACA: Puerto Escondido to San Pedro Mixtepec, 2 (AMNH); 7 mi. S Putla, 2500 ft., 1 (MSU); 0.5 mi. SE San Gabriel Mixtepec, 3 (AMNH). PUEBLA: 8 mi. SE Izucar de Matamoros, 4100 ft., 1 (MSU); 0.5 mi. SE Rijo, 1 (UMMZ).

Specimens (61) of *G. m. mexicana* used in comparisons and in Table 1 are from the localities that follow. CHIAPAS: Finca Ocuilapa, 10 km. SE Tonalá, 1 (LSU); 15 mi. ESE Tonalá, 2 (LACM). OAXACA: Diana Liesa Cave, 3 (AMNH); Guiengola (Polito), 2 (AMNH); 13 mi. ENE Juchitán (4 mi. E Jct. 185 on Rt. 190), 2 (UMMZ); Las Vacas, 3000 ft., 1 (AMNH); 34 mi. S (by Hwy. 190) La Ventosa Jct., Río Guamól, 3 (MSB); near Mazahito, 1 (UNAM); Mazatlán, Zacatepec, 1 (AMNH); Mongoñé, 1 (AMNH); 1 mi. E Puerto Angel, 4 (TCWC); Salina Cruz (La Ventosa), 2 (AMNH); 4 mi. NE Salina Cruz (La Ventosa), 1 (AMNH); San Bartolo, 5 (AMNH); San Carlos, 1 (AMNH); San Carlos, Las Vacas, 3000 ft., 2 (AMNH); Santa María Guiengati, 1 (AMNH); Tapanatepec, 1 (AMNH); 4 mi. E Tapanatepec, ca. 800 ft., 2 (TCWC); 4 mi. WNW Tapanatepec, 1 (AMNH); Tehuantepec, 2 (AMNH); 9 mi. NW Tehuantepec, Hwy. 190, 4

(MSB); 20 mi. W Tehuantepec, 1 (UMMZ); 20 mi. NW Tehuantepec, 1 (AMNH); 60 mi. NW Tehuantepec, 3 (AMNH); Tequistitlán, 3 (AMNH); Tequistitlán, Cerro Ocopec, 4000 ft., 3 (AMNH); 1 mi. N Tequistitlán, ca. 800 ft., 5 (TCWC); Unión Hidalgo, 2 (AMNH).

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